

**Notice of Allowability**

Application No.

10/706,324

Examiner

Kalimah Fernandez

Applicant(s)

FARNSWORTH, VINCENT R.

Art Unit

2881

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7-21-05.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☒ The drawings filed on 15 April 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|   | 9. <input type="checkbox"/> Other _____   |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 1-25 are allowed. The following is an examiner's statement of reasons for allowance: the prior art of record fails to teach or fairly suggest the claimed invention.
2. Specifically, no teaching or obvious suggestion was found of the limitation " a plurality of inner electrodes disposed about the axis, the plurality of ions being accepted from the ion injector into the interstitial region between the outer electrode and the plurality of inner electrodes; and a power supply system connected to the electrodes of the ion selection chamber, where the power supply system selectively provides a constant voltage between the outer electrode and the plurality of inner electrodes to allow ions having different orbital periods to enter a stable orbit about the axis, and where the power supply system also selectively provides a changing voltage between the outer electrode and at least one of the plurality of inner electrodes to facilitate separation of ions of a selected mass-to-charge ratio from ions of non-selected mass-to-charge ratios based on the orbital periods of the plurality of ions about the axis" as in claim 1.

3. Similarly, no teaching or obvious suggestion was found of the limitation “a power supply system connected to the first, second, and third electrodes, the power supply system providing a DC voltage between the interior electrode surface of the first electrode and the exterior electrode surface of the second electrode, the power supply system selectively providing a switched DC voltage between the interior electrode surface of the first electrode and the exterior electrode surface of the third electrode” as in claim 12. Likewise, no teaching or obvious suggestion was found of the limitation “varying the electric power to the concentric electrode arrangement to introduce electric field perturbations in the substantially homogeneous electric field whereby only ions of the predetermined mass-to-charge ratio that have a predetermined orbital period remain in a stable orbit about the axis” as in claim 19.

4. No teaching or obvious suggestion was found of the limitation “directing the plurality of ions into a stable orbit about an axis within a substantially homogenous electric field; introducing electric field perturbations to substantially homogenous electric field so that only ions of the predetermined mass-to-charge ratio that have a predetermined orbital period about the axis remain in a stable orbit about the axis” as in claim 13.

5. Lastly, no teaching or obvious suggestion was found of the limitation “trapping the plurality of ions into a stable orbit about an axis in an electric field formed between a plurality of concentric electrodes; selectively removing ions having non-selected mass-to-charge ratios from the stable orbit based on the orbital period about the axis of the ions having the predetermined mass-to-charge ratio” as in claim 24.

6. Claims 2-11, 14-18, 20-23, and 25 are allowed by virtue of their dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

### ***Conclusion***


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US Pat No 6,803,569 issued to Tsybin et al; US Pat No 5,019,706 issued to Allenmann et al; US Pat No 6,521,888 issued to Carlson; and US Pat No 4,982,088 issued to Weitekamp et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 571-272-2470. The examiner can normally be reached on Mon-Tues 6:30-3:30; Wed-Thurs 8-5 and Fri.9am-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KF

  
**JACK BERMAN**  
PRIMARY EXAMINER